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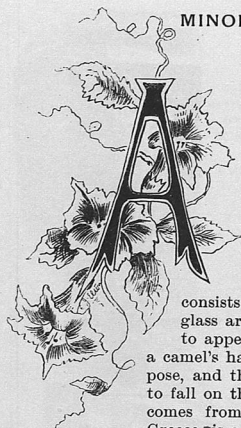
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THE DECORATOR AND FURNISHER.

MINOR ARTS OF DECORATION.

BY JAMES CARRUTHERS.

THE RECREATIVE METHOD OF ENGRAVING GLASS WITH CORUNDUM. SANDBLAST ENGRAVING.



NOVEL process of engraving on glass, and which may be conveniently practised by amateurs for its utility and as a pastime, consists in covering those portions of a glass article to be decorated and that are to appear in relief with an elastic varnish, a camel's hair pencil being used for this purpose, and then allowing granulated corundum to fall on the surface. This corundum, which comes from Spain and some of the isles of Greece, is a substance only second in hardness to the diamond, and in falling bites into the exposed portions of the glass without affecting those beneath the elastic coating. The design having been duly prepared one may sit "idly by" for the completion of the operation. The portions of the glass covered are necessarily in relief; those bitten into are found to closely approximate in depth. All that is required by amateurs to carry this process out is some skill in sketching and the manipulative experience which practice brings.

For tracing the design on the glass, gutta percha or caoutchouc dissolved in alcohol and mixed with sufficient amount of mastic varnish to give the required consistence, are available; gelatine may also be used. When these coatings dry on the glass it is ready for the action of the corundum. The parts of the design in relief, when the corundum has done its work, are ground rough by brushing them over with emery powder, using a hard brush. The fineness of the texture will be determined by the fineness of the powder. Another method is to cover the entire surface with varnish and remove the portions requisite to form the design with the graver, then submitting it to the corundum shower. The depth of the indentations produced can be varied by covering any portion of the lines with the varnish, thus allowing the particles to bite more deeply into the remaining uncovered surfaces.

For duplicating a design a stencil plate is made from the paper on which the design is drawn, those portions not intended to be exposed left solid. The corundum will not penetrate the paper. Where the relief surface is in bands sufficiently wide to allow of ornamentation, the design is traced on same with varnish with the pencil or by the graver after complete coating, and the surrounding surface of the glass completely coated. On mirrors, to which central and corner designs may be given, the impact of the particles of corundum causes the surfaces bitten into to assume a soft lustrous whitish hue, which is a relief from the glossiness of the general face of the mirror.

A lace design can be perfectly executed by taking a piece of real lace, immersing it in a mixture of soap and water, and pressing it on the glass, to which it will tenaciously adhere. The whole surface, including the lace, is then gone over with the varnish, and overlapping portions of the lace being laid hold of, it is carefully lifted, exposing on the glass all its delicate reticulations and meshes to be bit into by the corundum. On flash glass these lace designs are very effective, as there is the contrast of color instead of that of mere semi-opaque and clearly transparent surfaces. Flashed glass, too, may be used in the other operations.

The apparatus consists of a box or hopper of suitable dimensions placed near the ceiling of a room, from which depends a small tube of about eight feet in length and the third of an inch in diameter. The corundum is placed in the hopper, and regulated by a slide falls down by force of gravitation through the tube under which the glass articles are placed. In a few minutes a design is cut with a great degree of exactness and beauty.

The glass articles to be operated on are adjusted by suitable supports, so that the portions to be incised are horizontal to the descending corundum, on a table with high border or at the base of a box. The table top or base of box are inclined, and each contains a longitudinal slit through which the corundum finally falls into a tray, from which the hopper is replenished. Thus the corundum is used over and over again.

The engraving being completed, the varnish is softened for removal by immersing the surface of the article in alcohol. It is afterwards washed in warm water.

The range of production in this beautiful process extends from the simplest diaper patterns, monograms, scroll and geometric designs to flowers, human and fanciful figures, land-

scapes and marine views. The sandblast process, which is carried on in manufactories, is extensively applied to the ornamentation of windows, glass office partitions, table ware and sign lettering, and is also resorted to for central and border designs on mirrors, glass caskets and like objects. Its recommendation lies in the precision and beauty of the work, and its economy, allowing of rapid execution; also in the facilities for duplication.

The modes of preparing the glass are similar to those employed in the corundum process, with the exception that a thicker coat of varnish is given. The sand is placed in a hopper opening into a huge timber box, the current of air enters beneath and drives the sand in clouds against the objects to be engraved. When the biting in is complete the articles are conveyed to the washing room and dipped in troughs of warm water slightly acidulated so as to cleanse the exposed surface from every particle of sand. The varnish is next treated to a solvent and removed.

This powerful current of air is produced by a fan, driven by steam, in the basement of the building. The speed of its revolution renders it dangerous to linger in the vicinity of the belting, which may snap at any moment and give a deadly stroke. The current passes through galvanized iron piping some two feet in circumference, and which winds through successive stories in straight, diagonal and curved reaches, emitting a sound like that of a confined tornado. The supervisor of the process in the vicinity of the heavily timbered box is of necessity an artist who determines the exact time at which the operation is complete. When this occurs the lower mouth of the hopper is closed with a lever. Another huge coil of piping, operated by an air blast, drives off the sand after falling. Attrition with the glass subdivides these particles, which with the exception of such as are reduced to impalpable powder, are utilized for the finer classes of work. The terrific rate of speed of the air driven by the fans through the metallic coils generates a high heat, and the necessity of resort to ventilation by air currents loads the air of such manufactories with fine sand dust, which is kept in suspension. The visitor is apt to emerge with clothes white as a miller's and with a countenance of leprous hue.

MASSIVE effects are less aimed at in cartouches bordering medallions and tablets with varied devices than lightsome elegance; and metallic frames for pictures are reduced in dimensions, thus eliminating the barbarism of mere quantity.



JANUARY.

A MONTHLY SERIES OF PANEL SKETCHES, BY F. L. PENET.